

03/06/02

1c928 U.S. PTO

PATENT APPLICATION TRANSMITTAL LETTER
(Large Entity)

Docket No.
S-94,529

1c928 U.S. PTO
10/090808
03/06/02

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Transmitted herewith for filing under 35 U.S.C. 111 and 37 C.F.R. 1.53 is the patent application of:

Christopher H. Sale, et al.

**For: METHOD AND APPARATUS FOR REMOTE DELIVERY AND MANIPULATION OF A MINIATURE TOOL
ADJACENT A WORK PIECE IN A RESTRICTED SPACE**

Enclosed are:


- ☐ Certificate of Mailing with Express Mail Mailing Label No.
- ☒ **Eight (8)** sheets of drawings.
- ☐ A certified copy of a application.
- ☒ Declaration ☒ Signed. ☐ Unsigned.
- ☒ Power of Attorney
- ☐ Information Disclosure Statement
- ☐ Preliminary Amendment
- ☒ Other: **Request for NonPublication**

CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	36	- 20 =	16	x \$18.00	\$288.00
Indep. Claims	3	- 3 =	0	x \$80.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$740.00
TOTAL FILING FEE					\$1,028.00

- ☐ A check in the amount of to cover the filing fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. **01-2752** as described below. A duplicate copy of this sheet is enclosed.
 - ☒ Charge the amount of **\$1,028.00** as filing fee.
 - ☒ Credit any overpayment.
 - ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
 - ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: **March 6, 2002**


Signature
Betty A. Winchester
Authorized Signature for Deposit Account 01-2752
U. S. Department of Energy
202-586-2810 (FAX 202-586-7127)

cc: **HQ/VBC**



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**REQUEST AND CERTIFICATION
UNDER
35 U.S.C. 122(b)(2)(B)(i)**

First Named Inventor	Christopher H. Sale, et al.	
Title	Method and apparatus for remote delivery and manipulation of a miniature tool adjacent a work	
Atty Docket Number	S-94,529	

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing. I hereby request that the attached application not be published under 35 U.S.C. 122(b).

March 6, 2002

Date

Virginia B. Caress

Signature

Virginia B. Caress, Reg. No. 34062

Typed or printed name

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing**.

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

For the Convenience of the Examiner

Key to Figures

- 5 [Line 5-5 in Fig 4 refers to Fig 5]
- 10 Closure block
- 12 Reactor pot
- 14 Lid
- 16 Closure seal
- 18 Small opening
- 20 Tool carrier
- 22 Carriage assembly
- 24 Accumulator assembly
- 26 Remote hydraulic actuator assembly
- 27 Secondary Operating Actuator
- 28 Arcuate frame
- 29 Upper arcuate slot
- 30 Delivery chain
- 31 Lower arcuate slot
- 32 Stabilizers
- 33 Side wall
- P Probe
- 34 Tracks
- 35 Cam

Key to Figures

- 36 Track
- 37 Cam
- 38 Arcuate recess
- 40 Hydraulic cylinder (not shown. Next to and identical to 42)
- 42 Hydraulic cylinder
- 44 Double acting piston
- 45 Double acting piston
- 46 Hydraulic line for cylinders 40 and 86
- 47 Carriage assembly inlet/outlet port for hydraulic line 46
- 48 Hydraulic line for cylinders 40 and 86
- 49 Carriage assembly inlet/outlet port for hydraulic line 48
- 50 Hydraulic line for cylinders 42 and 88
- 51 Carriage assembly inlet/outlet port for hydraulic line 50
- 52 Hydraulic line for cylinders 42 and 88
- 53 Carriage assembly inlet/outlet port for hydraulic line 52
- 54 Holes
- 56 Conventional probe connections
- 58 Conventional probe connections
- Y Direction of movement of probe P
- Z Direction of pivot in figure 7
- 60 Top portion of track 34

Key to Figures

- 62 Top portion of track 36
- 70 Actuator body
- 72 Guide plate
- 74 Guide pin
- 76 Guide pin
- 78 Skew adjuster
- 80 Lead screw
- 82 Double acting piston
- 84 Double acting piston
- 86 Internal cylinder
- 88 Internal cylinder
- 90 Remote hydraulic actuator assembly inlet/outlet port for hydraulic line 46
- 92 Remote hydraulic actuator assembly inlet/outlet port for hydraulic line 48
- 94 Remote hydraulic actuator assembly inlet/outlet port for hydraulic line 50
- 96 Remote hydraulic actuator assembly inlet/outlet port for hydraulic line 52
- MA Manipulator apparatus
- 110 Remote operating system
- 112 Base plate
- 114 Handle
- 116 Handle
- 120 Chambered Manifold block

122 Pressure gage

- | | |
|-----|--|
| 124 | Three way flow control valve for hydraulic line 46 |
| 126 | Three way flow control valve for hydraulic line 48 |
| 128 | Three way flow control valve for hydraulic line 52 |
| 130 | Three way flow control valve for hydraulic line 50 |
| 132 | Three way flow control valve for hydraulic line 48 |
| 134 | Three way flow control valve for hydraulic line 52 |
| 136 | Fluid fill valve |
| 138 | Air control valve |
| 140 | Pulsation damper |
| 142 | Accumulator assembly inlet/outlet port for three way control valve 124 |
| 144 | Accumulator assembly inlet/outlet port for three way control valve 126 |
| 146 | Accumulator assembly inlet/outlet port for three way control valve 128 |
| 148 | Accumulator assembly inlet/outlet port for three way control valve 130 |
| 150 | Accumulator assembly inlet/outlet port for three way control valve 132 |
| 152 | Accumulator assembly inlet/outlet port for three way control valve 134 |
| 154 | Accumulator assembly inlet/outlet port for fluid fill valve 136 |
| 156 | Accumulator assembly inlet/outlet port for air control valve 138 |